

National Outbreak of *Acanthamoeba* Keratitis Associated with Use of a Contact Lens Solution, United States

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CME ACTIVITY

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Learning Objectives

Upon completion of this activity, participants will be able to:

- Describe the incidence and etiology of *Acanthamoeba* keratitis (AK) infection in the United States
- Identify the demographic and clinical characteristics of patients who acquired AK
- Identify the risk factors for AK among contact lens users.

Editor

Carol Snarey, Copyeditor, *Emerging Infectious Diseases*. Disclosure: Carol Snarey has disclosed no relevant financial relationships.

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An outbreak of *Acanthamoeba* keratitis, a rare, potentially blinding, corneal infection, was detected in the United States in 2007; cases had been increasing since 2004. A case-control study was conducted to investigate the outbreak. We interviewed 105 case-patients from 30 states and

184 controls matched geographically and by contact lens use. Available contact lenses, cases, solutions, and corneal specimens from case-patients were cultured and tested by molecular methods. In multivariate analyses, case-patients had significantly greater odds of having used Advanced Medical Optics Complete Moisture Plus (AMOCMP) solution (odds ratio 16.9, 95% confidence interval 4.8–59.5). AMOCMP manufacturing lot information was available for 22 case-patients, but none of the lots were identical. Three unopened bottles of AMOCMP tested negative for *Acanthamoeba* spp. Our findings suggest that the solution was not intrinsically contaminated and that its anti-*Acanthamoeba* efficacy was likely insufficient. Premarket standardized testing of contact lens solutions for activity against *Acanthamoeba* spp. is warranted.

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Article Title

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CME Questions

1. Which of the following most accurately describes the incidence and characteristics of *Acanthamoeba* keratitis (AK) in the United States?

- A. Occurs primarily among hard contact lens users
- B. Annual incidence is 1–2 cases per 1 million
- C. A painless corneal infection
- D. Has a benign course

3. Which of the following is most likely to be an independent predictor of AK in contact lens users?

- A. Swimming in lakes while wearing lenses
- B. Hispanic ethnicity
- C. Topping off lens solutions
- D. Lack of handwashing before lens insertion

2. Which of the following is least likely to describe the characteristics of AK associated with the cases reported in this article?

- A. Median patient age was 40 years
- B. Most used a contact lens cleaning solution
- C. Most used soft contact lenses
- D. Median time to treatment was 49 days

Activity Evaluation

1. The activity supported the learning objectives.				
Strongly Disagree				Strongly Agree
1	2	3	4	5
2. The material was organized clearly for learning to occur.				
Strongly Disagree				Strongly Agree
1	2	3	4	5
3. The content learned from this activity will impact my practice.				
Strongly Disagree				Strongly Agree
1	2	3	4	5
4. The activity was presented objectively and free of commercial bias.				
Strongly Disagree				Strongly Agree
1	2	3	4	5